

WHAT IS CLAIMED IS:

1. An apparatus for wakeup on LAN, comprising:

a programmable control apparatus;

a computer system, connected to the programmable control apparatus;

5 and

an interface device, separately connected to the programmable control apparatus and the computer system, wherein when the interface device receives a wakeup on LAN package, the interface device separately sends a management signal to the programmable control apparatus and the computer system;

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wherein the programmable control apparatus determines if the computer system is in an abnormal off state according to a handshaking protocol, and when the computer system receives the management signal and is in the abnormal off state, the programmable control system sends a reset signal to the computer system to reset the computer system.

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2. The apparatus of claim 1, wherein the programmable control apparatus is a programmable control chip.

3. The apparatus of claim 1, wherein the programmable control apparatus comprises a monitor module, monitoring a system health state of the computer system and generating a system health data.

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4. The apparatus of claim 3, wherein the programmable control apparatus comprises a data output port, sending the system health data.

5. The apparatus of claim 1, wherein the computer system comprises a south bridge chip, receiving the management signal.

6. The apparatus of claim 1, wherein the interface device is a network interface card.

7. The apparatus of claim 1, wherein the management signal is a power management event signal.

5 8. A method for wakeup on LAN, comprising: ✓
 sending a wakeup on LAN package to an interface device; and
 after receiving the wakeup on LAN package, the interface device
separately sending a management signal to a programmable control apparatus
and a computer system;

10 wherein when the computer system is in a running mode, the computer
system ignores the management signal;

 when the computer system is in a sleep mode, the computer system is
woken up by the management signal; and

 when the computer system is in an abnormal off state, the programmable
15 control apparatus resets the computer system after receiving the management
signal.

 9. The method of claim 8, wherein the method further comprises
determining whether the computer system is in a normal state or in the
abnormal state by a handshaking protocol between the programmable control
20 apparatus and the computer system, wherein the normal state comprises the
running mode and the sleep mode.

 10. The method of claim 9, wherein the step of the determining
comprises:

 sending a first signal by the programmable control apparatus and
25 sending a second signal by the computer system for interlacedly writing into a

register, wherein a logic level of the first signal is opposite to a logic level of the second signal;

wherein when a logic level of a data stored in the register remains identical to the logic level of the first signal, the computer system is in the
5 abnormal off state.

11. The method of claim 8, wherein the method further comprises monitoring a system health state of the computer system and generating a system health data.

12. The method of claim 11, wherein the method further comprises
10 determining whether to send the wakeup on LAN package according to the system health data.

13. The method of claim 8, wherein the computer system comprises a south bridge chip for receiving the management signal.

14. A programmable control apparatus, connected to a computer system,
15 the programmable control apparatus comprising:

a receiving module, receiving a management signal from an interface device;

a handshaking module, communicating to the computer system with a handshaking protocol for determining if the computer system is in an abnormal
20 off state; and

a reset module, sending a reset signal to the computer system, wherein when the programmable control apparatus determines the computer system is in the abnormal off state, and receives the management signal, the reset signal resets the computer system.

15. The programmable control apparatus of claim 14, wherein the programmable control apparatus sends a first signal and the computer system sends a second signal for interlacedly writing into a register, and a logic level of the first signal is opposite to a logic level of the second signal, wherein when a logic level of a data stored in the register remains identical to the logic level of the first signal, the computer system is in the abnormal off state.

16. The programmable control apparatus of claim 14, wherein the programmable control apparatus comprises:

a monitor module, monitoring a system health state of the computer system and generating a system health data; and
a data output port, sending the system health data.

17. The programmable control apparatus of claim 14, wherein the interface device is a network interface card.

18. The programmable control apparatus of claim 14, wherein the management signal is a power management event signal.